

STATE OF INDIANA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
PUBLIC NOTICE NO. 20211026 IN0002763 – D
DATE OF NOTICE: OCTOBER 26, 2021
DATE RESPONSE DUE: NOVEMBER 26, 2021

The Office of Water Quality proposes the following NPDES DRAFT PERMIT:

MAJOR – MODIFICATION

DUKE ENERGY INDIANA, LLC-CAYUGA GENERATING STATION, Permit No. IN0002763, VERMILLION COUNTY, 3300 North SR 63, Cayuga, IN. This industrial major facility is a coal fired electric generating station. The permit is being modified to incorporate provisions from EPA's Steam Electric Reconsideration Rule for the flue gas desulfurization (FGD) and bottom ash transport water (BATW) wastestreams. Permit Manager: Brad Gavin, 317/234-4155, bgavin@idem.in.gov. Posted online at <https://www.in.gov/idem/public-notices/>.

PROCEDURES TO FILE A RESPONSE

Draft can be viewed or copied (10¢ per page) at IDEM/OWQ NPDES PS, 100 North Senate Avenue, (Rm 1203) Indianapolis, IN, 46204 (east end elevators) from 9 – 4, Mon - Fri, (except state holidays). A copy of the Draft Permit is on file at the local County Health Department. Please tell others you think would be interested in this matter. For your rights & responsibilities see: Public Notices: <https://www.in.gov/idem/public-notices/>; Citizen Guide: <https://www.in.gov/idem/resources/citizens-guide-to-idem/>. Please tell others whom you think would be interested in this matter.

Response Comments: The proposed decision to issue a permit is tentative. Interested persons are invited to submit written comments on the Draft permit. All comments must be postmarked no later than the Response Date noted to be considered in the decision to issue a Final permit. Deliver or mail all requests or comments to the attention of the Permit Writer at the above address, (mail code 65-42 PS).

To Request a Public Hearing:

Any person may request a Public Hearing. A written request must be submitted to the above address on or before the Response Date noted. The written request shall include: the name and address of the person making the request, the interest of the person making the request, persons represented by the person making the request, the reason for the request and the issues proposed for consideration at the Hearing. IDEM will determine whether to hold a Public Hearing based on the comments and the rationale for the request. Public Notice of such a Hearing will be published in at least one newspaper in the geographical area of the discharge and sent to anyone submitting written comments and/or making such request and whose name is on the mailing list at least 30 days prior to the Hearing.



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Eric J. Holcomb
Governor

Bruno Pigott
Commissioner

October 26, 2021

VIA ELECTRONIC MAIL

Mr. Andy Leininger, Station Manager
Cayuga Generating Station
Duke Energy Indiana
3300 State Road 63
Cayuga, Indiana 47928
E-mail: Andy.Leininger@duke-energy.com

Dear Mr. Leininger:

Re: NPDES Permit No. IN0002763
Draft Permit Modification
Duke Energy Indiana
Cayuga, Indiana
Vermillion County

Your request for a permit modification has been reviewed and processed in accordance with rules adopted under 327 IAC 5. Enclosed is a copy of the draft permit modification.

Pursuant to IC 13-15-5-1, IDEM will publish the draft permit document online at <https://www.in.gov/idem/public-notice/>. Additional information on public participation can be found in the "Citizens' Guide to IDEM", available at <https://www.in.gov/idem/resources/citizens-guide-to-idem/>. A 30-day comment period is available to solicit input from interested parties, including the public.

Please review this draft permit modification and associated documents carefully to become familiar with the proposed terms and conditions. Comments concerning the draft permit modification should be submitted in accordance with the procedure outlined in the enclosed public notice form. We suggest that you meet with us to discuss major concerns or objections you may have with the draft permit modification. Questions concerning this draft permit modification may be addressed to Brad Gavin at 317-234-4155 or bgavin@idem.in.gov.

Sincerely,

Nikki Gardner for

Richard Hamblin, Chief
Industrial NPDES Permits Section
Office of Water Quality



A State that Works

Mr. Andy Leininger, Station Manager
Page 2

Enclosures

cc: Vermillion County Health Department
Jason Palin, IDEM Inspector
Joey Van Skaik; joey.vanskaik@duke-energy.com
Kurtis Hopkins; kurtis.hopkins@duke-energy.com
Chief, Permits Section, U.S. EPA, Region 5
Richard Hamblin, IDEM

STATE OF INDIANA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 *et seq.*, the "Clean Water Act" or "CWA"), and IDEM's authority under IC 13-15,

DUKE ENERGY INDIANA, LLC

is authorized to discharge from the Cayuga Generating Station that is located at 3300 State Road 63, Cayuga, Indiana to receiving waters identified as the Wabash River and an unnamed tributary of the Wabash River in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, and IV hereof. This permit may be revoked for the nonpayment of applicable fees in accordance with IC 13-18-20.

The permit, as issued on December 20, 2018 is hereby amended, as contained herein. The amended provisions shall become effective **December 1, 2021**. All terms and conditions of the permit not modified at this time remain in effect. Further, any existing condition or term affected by the amendments will remain in effect until the amended provisions become effective. This permit may be revoked for the nonpayment of applicable fees in accordance with IC 13-18-20.

This permit and the authorization to discharge, as amended, shall expire at midnight July 31, 2023. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management no later than 180 days prior to the date of expiration.

Issued on _____ for the Indiana Department of
Environmental Management.

Jerry Dittmer, Chief
Permits Branch
Office of Water Quality

2. The permittee is authorized to discharge from Outfall 002 (located at Latitude and Longitude: DMS 39°54'50"N, 87°24'42"W or DEC 39.9139, -87.4117) in accordance with the terms and conditions of this permit. The discharge is limited to fly ash sluice water (also known as fly ash transport water)[1], bottom ash sluice water (also known as bottom ash transport water)[2], coal yard sumps, station drains, storm water, wastewater from demineralizer water treatment, coal yard diversion water (storm water from around the coal pile) and non-chemical boiler and air heater wash (intermittent), leachate from the FGD gypsum landfill, and treated sanitary wastewater (Outfall 102). Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Wabash River. Such discharge shall be limited and monitored by the permittee as specified below:

Outfall 002
DISCHARGE LIMITATIONS [3][4][5][12]

Table 1

<u>Parameter</u>	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	<u>Monthly Average Report</u>	<u>Daily Maximum Report</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow			MGD	-----	-----	-----	Daily	24 Hr. Total
Total Suspended Solids (TSS) [6]	-----	-----	-----	30	70	mg/l	1 X Weekly	24 Hr. Comp
Oil & Grease [6]	-----	-----	-----	10	13	mg/l	1 X Monthly	Grab
Ammonia (as N)	-----	-----	-----	Report	Report	mg/l	2 X Monthly	24 Hr. Comp
Copper [7]	-----	-----	-----	Report	Report	µg/l	2 X Monthly	24 Hr. Comp
Aluminum [8]	-----	-----	-----	Report	Report	mg/l	2 X Monthly	24 Hr. Comp
Arsenic [7]	-----	-----	-----	Report	Report	µg/l	2 X Monthly	24 Hr. Comp
Cadmium [7]	-----	-----	-----	Report	Report	µg/l	2 X Monthly	24 Hr. Comp
Chloride	-----	-----	-----	Report	Report	mg/l	2 X Monthly	24 Hr. Comp
Total Residual Chlorine [9] [14]								
Interim[13]	-----	-----	-----	Report	Report	µg/l	1 X Weekly [14]	Grab
Final[13]	-----	-----	-----	20	40	µg/l	1 X Weekly [14]	Grab
Mercury [7][10][11]	-----	-----	-----	Report	Report	ng/l	6 X Yearly	Grab
Selenium [7][11]	-----	-----	-----	Report	Report	µg/l	2 X Monthly	24 Hr. Comp
Sulfate	-----	-----	-----	Report	Report	mg/l	2 X Monthly	24 Hr. Comp
Zinc [7]	-----	-----	-----	Report	Report	µg/l	2 X Monthly	24 Hr. Comp
Bromide	-----	-----	-----	Report	Report	µg/l	2 X Monthly	24 Hr. Comp

Table 2

<u>Parameter</u>	Quality or Concentration			Monitoring Requirements	
	<u>Daily Minimum</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
pH	6.0	9.0	s.u.	1 X Weekly	Grab

- [1] Effective November 1, 2018, there shall be no discharge of pollutants in fly ash sluice water (also known as fly ash transport water).

- [2] Pursuant to 40 CFR 423.13(o)(1)(ii)(B), on or before December 31, 2025, the permittee may request a transfer from limitations for electric generating units permanently ceasing coal combustion to the generally applicable limitations for bottom ash transport water under 40 CFR 423.13(k)(1)(i) by submitting a bottom ash transport water notice of planned participation (NOPP) to IDEM pursuant to 40 CFR 423.19(i). This NOPP shall, at a minimum, include the information required under 40 CFR 423.19(i)(2).

If upon evaluation of the NOPP, IDEM determines that the permittee has met the qualifications applicable to such a transfer, including the requirement under 40 CFR 423.13(o)(2) that the facility is in compliance with all currently applicable requirements, IDEM will notify the permittee that the requested transfer is effective. If IDEM notifies the permittee that the requested transfer is effective, the following generally applicable BAT requirement for bottom ash transport water will be effective immediately at this outfall:

There shall be no discharge of pollutants in bottom ash transport water.

- [3] In the event that changes are to be made in the use of water treatment additives, including dosage, or a new water treatment additive is to be used that will contribute to Outfall 002, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: <http://www.in.gov/idem/5157.htm>.
- [4] The Storm Water Monitoring and Non Numeric Effluent Limits and the Storm Water Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E. of this permit.
- [5] See Part I. B. of the permit for the Narrative Water Quality Limits.
- [6] Within one hundred eighty (180) days of the effective date of this permit, the permittee shall submit to IDEM for review a proposed storm water total suspended solids (TSS) sampling plan. This purpose of this plan is to gather data sufficient to allow a determination of the appropriate allocation for TSS in the storm water discharging through this outfall to be used in the calculation of effluent limits for TSS at this outfall. At a minimum, this sampling plan shall be designed to determine the levels of TSS in these storm water wastestreams as well as the TSS removal rate of the permittee's new treatment system. This plan shall include an oil and grease component to determine the appropriate allocation for oil and grease for the stormwater from drainage areas with oil/petroleum sources which contributes to this outfall. This component would determine the levels of oil and grease in these storm water wastestreams after discharge from the on-site oil water separators but prior to discharge into the new treatment system and would also determine the removal rate for oil and grease of the new treatment system. After IDEM review and approval of the sampling plan, the permittee shall initiate the plan. After implementation of the plan is complete, the permittee shall submit the results to IDEM.
- [7] The permittee shall measure and report identified the metals as total recoverable metal.

- [8] The identified metals shall be measured and reported in both total recoverable and dissolved forms.
- [9] The WQBELs for total residual chlorine are less than the limit of quantitation (LOQ) as specified below. Compliance with this permit will be demonstrated if the effluent concentrations measured are less than the LOQ.

If the measured concentration of total residual chlorine is greater than the water quality based effluent limitations and above the respective limit of detection (LOD) specified in the table below in any three (3) consecutive analyses, or any five (5) out of nine (9) analyses, then the discharger shall:

- (1) Re-exam the chlorination and dechlorination procedures (if applicable), and
- (2) The sampling and analysis for total residual chlorine (TRC) shall be increased to 2 X Daily and remain at this increased sampling frequency until:
 - (a) The increased sampling frequency for TRC has been in place for at least two weeks;
 - (b) At least nine (9) samples have been taken under this increased sampling frequency; and
 - (c) The measured concentration of TRC is less than the LOD specified in the table above in at least seven (7) out of the nine (9) most recent analyses.

<u>Parameter</u>	<u>Test Method</u>	<u>LOD</u>	<u>LOQ</u>
Chlorine	4500-Cl-D,E or 4500-Cl-G	0.02 mg/l	0.06 mg/l

Case-Specific LOD/LOQ

The permittee may determine a case-specific LOD or LOQ using analytical method specified above, or any other test method which is approved by the Commissioner prior to use. The LOD shall be derived by the procedure specified for method detection limits contained in 40 CFR Part 136, Appendix B, and the LOQ shall be set equal to 3.18 times the LOD. Other methods may be used if first approved by the Commissioner.

- [10] Mercury monitoring shall be conducted bi-monthly in the months of February, April, June, August, October, and December of each year for the term of the permit using EPA Test Method 1631, Revision E.
- [11] The following EPA test methods and/or Standard Methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM.

<u>Parameter</u>	<u>Test Method</u>	<u>LOD</u>	<u>LOQ</u>
Selenium	3113B or 3114B	2 µg/l	6.4 ug/l
Selenium	200.8	2.1 µg/l	6.7 ug/l
Selenium	200.9	0.6 µg/l	1.9 ug/l
Mercury	1631, Rev. E	0.2 ng/l	0.5 ng/l

[12] Polychlorinated Biphenyl

There shall be no discharge of polychlorinated biphenyl (PCBs) compounds such as those commonly used for transformer fluid at this Outfall.

Many electrical transformers manufactured prior to 1978 contained PCBs. Therefore, in order to determine compliance with the PCB prohibition, the permittee shall provide the following PCB* data for Outfall 002 within twelve (12) months of the effective date of the permit. The permittee shall submit the data to the Office of Water Quality, Industrial NPDES Permits Section, 100 North Senate Avenue, Indianapolis, Indiana 46204 2251.

<u>Parameter</u>	<u>Test Method</u>	<u>LOD</u>	<u>LOQ</u>
PCBs*	608	0.1 ug/l	0.3 ug/l

*PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016

- [13] A schedule of compliance, providing the permittee up to eighteen (18) months to comply with the final effluent limitations for total residual chlorine, is provided in Part I.F. The interim monitoring requirements for total residual chlorine are applicable until the final effluent limitations for total residual chlorine are in effect.
- [14] When chlorine or chlorine based substances (such as sodium hypochlorite) is used to control algae in the primary basin, holding basin, secondary basin, or the final finishing basin or connecting ditches, the monitoring frequency for total residual chlorine shall be increased to daily and the permittee is required to dechlorinate so as to minimize the discharge of total residual chlorine.

3. The permittee is authorized to discharge from internal Outfall 101 (located at Latitude and Longitude: DMS 39°55'18"N, 87°25'42"W or DEC 39.9217,-87.4283) in accordance with the terms and conditions of this permit. The discharge is limited to flue gas desulfurization (FGD) wastewater from the FGD wastewater treatment plant. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry commingling with other wastestreams. Such discharge shall be limited and monitored by the permittee as specified below:

Outfall 101
DISCHARGE LIMITATIONS [4][6]

Table 1

<u>Parameter</u>	<u>Quantity or Loading</u>			<u>Quality or Concentration</u>			<u>Monitoring Requirements</u>	
	<u>Monthly Average Report</u>	<u>Daily Maximum Report</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	-----	-----	MGD	-----	-----	-----	Daily	24 Hr. Total
Total Suspended Solids (TSS)	-----	-----	-----	30	100	mg/l	2 X Monthly	24 Hr. Comp
Oil & Grease	-----	-----	-----	15	20	mg/l	2 X Monthly	Grab
Ammonia (as N)	-----	-----	-----	Report	Report	mg/l	2 X Monthly	24 Hr. Comp
Arsenic [1]								
Interim [2]	-----	-----	-----	Report	85	µg/l	2 X Monthly	24 Hr. Comp
Final Option 1 [2]	-----	-----	-----	Report	5	µg/l	2 X Monthly	24 Hr. Comp
Beryllium [1]	-----	-----	-----	Report	Report	µg/l	2 X Monthly	24 Hr. Comp
Bromide								
Interim [2]	-----	-----	-----	Report	Report	mg/l	2 X Monthly	24 Hr. Comp
Final Option 1 [2]	-----	-----	-----	Report	0.2	mg/l	2 X Monthly	24 Hr. Comp
Cadmium [1]	-----	-----	-----	Report	59	µg/l	2 X Monthly	24 Hr. Comp
Chromium [1]	-----	-----	-----	Report	361	µg/l	2 X Monthly	24 Hr. Comp
Copper [1]	-----	-----	-----	Report	50	µg/l	2 X Monthly	24 Hr. Comp
Lead [1]	-----	-----	-----	Report	11	µg/l	2 X Monthly	24 Hr. Comp
Mercury [1][3][5]								
Interim [2]	-----	-----	-----	Report	50,000	ng/l	6 X Yearly	Grab
Final Option 1 [2]	-----	-----	-----	10	23	ng/l	6 X Yearly	Grab
Selenium[1][5]								
Interim [2]	-----	-----	-----	Report	Report	µg/l	2 X Monthly	24 Hr. Comp
Final Option 1 [2]	-----	-----	-----	Report	10	µg/l	2 X Monthly	24 Hr. Comp
Total Dissolved Solids (TDS)								
Interim [2]	-----	-----	-----	Report	Report	mg/l	2 X Monthly	24 Hr. Comp
Final Option 1 [2]	-----	-----	-----	149	306	mg/l	2 X Monthly	24 Hr. Comp
Nitrate/nitrite as N								
Interim [2]	-----	-----	-----	Report	Report	mg/l	2 X Monthly	24 Hr. Comp
Final Option 1 [2]	-----	-----	-----	1.2	2.0	mg/l	2 X Monthly	24 Hr. Comp

Table 2

<u>Parameter</u>	<u>Quality or Concentration</u>			<u>Monitoring Requirements</u>	
	<u>Daily Minimum</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
pH	6.0	9.0	s.u.	2 X Monthly	Grab

- [1] The permittee shall measure and report the identified metals as total recoverable metal.
- [2] Pursuant to 40 CFR 423.13(o)(1)(ii)(B), on or before December 31, 2025, the permittee may request a transfer from limitations for electric generating units permanently ceasing coal combustion to voluntary incentives program limitations [Final Option 1] by submitting a voluntary incentives program notice of planned participation (NOPP) to IDEM pursuant to 40 CFR 423.19(i). This NOPP shall, at a minimum, include the information required under 40 CFR 423.19(i)(2) and the information required under 40 CFR 423.19(h)(2).

If upon evaluation of the NOPP, IDEM determines that the permittee has met the qualifications applicable to such a transfer, including the requirement under 40 CFR 423.13(o)(2) that the facility is in compliance with all currently applicable requirements, IDEM will notify the permittee that the requested transfer is effective. If IDEM notifies the permittee that the requested transfer is effective, the Final Option 1 limits and monitoring requirements will be effective on December 31, 2028. The Interim requirements will remain in effect until such time that the Final Option 1 limits and monitoring requirements become effective.

In addition, the permittee shall submit voluntary incentive program annual progress reports, beginning one year after IDEM notifies the permittee that the requested transfer is effective. These annual progress reports shall conform to the requirements specified in 40 CFR 423.19(h)(3) and (4) and at a minimum shall detail the completion of interim milestones presented in the engineering dependency chart from the notice of planned participation since the previous progress report, provide a narrative discussion of completed, missed, or delayed milestones, and provide updated milestones.

- [3] Mercury monitoring shall be conducted bi-monthly in the months of February, April, June, August, October, and December of each year for the term of the permit using EPA Test Method 1631, Revision E.
- [4] Within 90 days of the effective date of this permit modification, the permittee shall submit an update to its timeline submitted in its October 2021 notice of planned participation. This updated timeline should provide a summary of and reflect the integrated resource plan the permittee submitted to the IURC in late 2021 and at a minimum shall include the anticipated date by which the permittee intends to solicit bids from the market for generation assets to replace the units that will be retiring, a general description of the solicitation, and the anticipated period of time that the solicitation will be open for bids. Further, the permittee should provide an estimate of the amount of time that they anticipate will be needed to evaluate and make a decision with respect to the bids.

In addition, as required by 40 CFR 423.19(f)(3) and (4), the permittee shall submit a permanent cessation of coal combustion annual progress report to IDEM by October 1, 2022, and submit subsequent annual progress reports to IDEM thereafter through December 31, 2028 (unless the permittee has requested a transfer under Footnote [2] above and IDEM has notified the permittee that the transfer is effective, in which case the annual progress report requirements under Footnote [2] will replace the annual progress report requirements in this footnote). These annual progress reports shall detail the completion of any interim milestones listed in the notice of planned participation and the updated timeline required in this footnote since the previous

progress report, provide a narrative discussion of any completed, missed, or delayed milestones, and provide updated milestones.

- [5] The following EPA test methods and/or Standard Methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM.

<u>Parameter</u>	<u>Test Method</u>	<u>LOD</u>	<u>LOQ</u>
Selenium	3113B or 3114B	2 µg/l	6.4 ug/l
Selenium	200.8	2.1 µg/l	6.7 ug/l
Selenium	200.9	0.6 µg/l	1.9 ug/l
Mercury	1631, Rev. E	0.2 ng/l	0.5 ng/l

- [6] Pursuant to 40 CFR 423.19(j), within 30 days of experiencing a material delay in the milestones provided in the voluntary incentives program NOPP required under Footnote [2], above or the permanent cessation of coal NOPP submitted in October 2021 or the updated permanent cessation of coal timeline required under Footnote [4], above and where such a delay may preclude permanent cessation of coal combustion or compliance with the voluntary incentives program limitations by December 31, 2028, the permittee shall file a notice of material delay with IDEM. This notice of material delay shall include the reason for the delay, the projected length of the delay, and a proposed resolution to maintain compliance.
- [7] As required by 40 CFR 423.18, the following conditions are applicable at both Outfall 002 and this outfall:
- (a) An electric generating unit shall qualify as permanently ceasing the combustion of coal by December 31, 2028, if such qualification would have been demonstrated absent the following qualifying event:
- (1) An emergency order issued by the Department of Energy under Section 202(c) of the Federal Power Act,
 - (2) A reliability must run agreement issued by a Public Utility Commission, or
 - (3) Any other reliability-related order or agreement issued by a competent electricity regulator (e.g., an independent system operator) which results in that electric generating unit operating in a way not contemplated when the certification was made; or
 - (4) The operation of the electric generating unit was necessary for load balancing in an area subject to a declaration under 42 U.S.C. 5121 *et seq.*, that there exists:
 - (i) An "Emergency," or
 - (ii) A "Major Disaster," and
 - (iii) That load balancing was due to the event that caused the "Emergency" or "Major Disaster" in paragraph (a)(4) of this section to be declared.
- (b) If the permittee provides the required documentation pursuant to 40 CFR 423.19(g) the permittee may avail itself of the protections of this permit condition.



National Pollutant Discharge Elimination System

Fact Sheet for

DUKE ENERGY INDIANA, LLC CAYUGA GENERATING STATION

Draft modification: October 2021

Indiana Department of Environmental Management

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

Permittee:	Duke Energy Indiana, LLC 1000 East Main Street Plainfield, Indiana 46168
Existing Permit Information:	Permit Number: IN0002763 Expiration Date: July 31, 2023
Facility Contact:	Joey Van Skaik 513-287-3425 Joey.VanSkaik@duke-energy.com
Facility Location:	Cayuga Generating Station 3300 State Road 63 Cayuga, Indiana 47982 Vermillion County
Receiving Stream:	Wabash River
GLI/Non-GLI:	Non-GLI
Proposed Permit Action:	Modify
Date Application Received:	January 11, 2021
Source Category	NPDES Major – Industrial
Permit Writer:	Brad Gavin, Environmental Engineer I 317-234-4155 or bgavin@idem.in.gov

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1.0 INTRODUCTION

The Indiana Department of Environmental Management (IDEM) received a request from Duke Energy Indiana, LLC on January 11, 2021, with supplemental information submitted on June 4, 2021, to modify National Pollutant Discharge Elimination System (NPDES) Permit IN0002763. The current five-year permit was issued with an effective date of August 1, 2018, in accordance with 327 IAC 5-2-6(a).

The Federal Water Pollution Control Act (more commonly known as the Clean Water Act), as amended, (Title 33 of the United States Code (U.S.C.) Section 1251 *et seq.*), requires an NPDES permit for the discharge of pollutants into surface waters. Furthermore, Indiana laws requires a permit to control or limit the discharge of any contaminants into state waters or into a publicly owned treatment works. This proposed permit action by IDEM complies with and implements these federal and state requirements.

In accordance with Indiana Administrative Code (IAC) 327 Article 5-3-8, as well as Title 40 of the Code of Federal Regulations (CFR) Sections 124.8 and 124.56, a Fact Sheet is required for certain NPDES permits. This permit does require a Fact Sheet. This document fulfills the requirements established in those regulations.

This Fact Sheet was prepared to explain the derivation of the terms and conditions in the permit modification and the reasons for them.

2.0 FACILITY DESCRIPTION

2.1 General

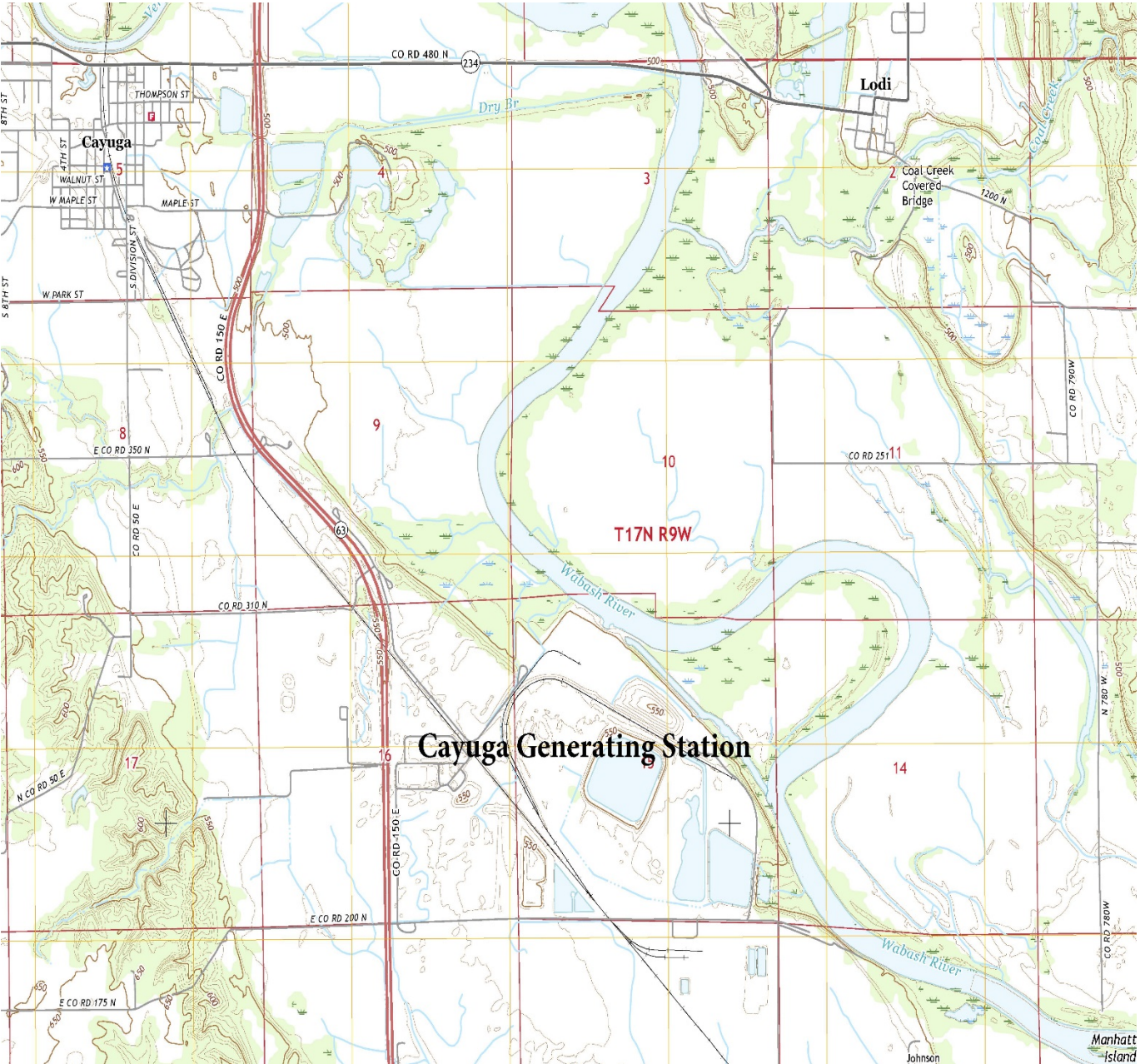
Duke Energy Indiana, LLC, Cayuga Generating Station consists of two coal-fired units (Units 1 and 2) that generate 1,075 MW of electricity. In addition to providing electricity, the plant provides steam to the neighboring International Paper Company plant.

The primary Standard Industrial Classification (SIC) code applicable to the Cayuga Generating Station is 4911, Electric Services.

The majority of the water used at the facility is taken directly from the Wabash River. The facility does use a small amount of potable water obtained from the Town of Cayuga.

A map showing the location of the facility has been included as Figure 1.

Figure 1: Facility Location



The facility location is: Cayuga Generating Station
3300 State Road 63
Cayuga, Indiana 47982
Vermillion County

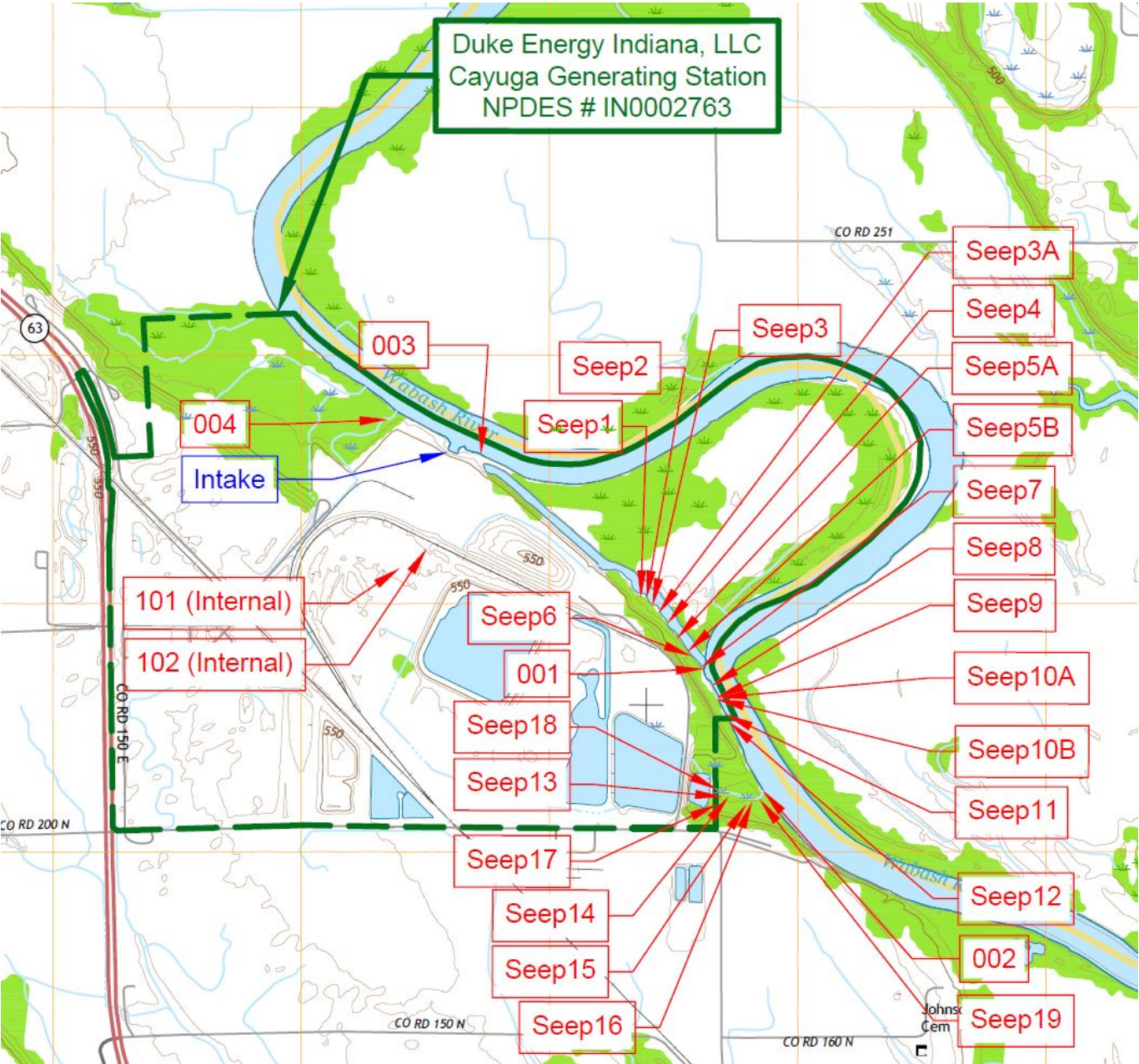
2.2 Outfall Locations

The location of the Outfalls at the facility are listed in the below table. The coordinates for Outfalls 001, 003, and 004 in the below table are different than the coordinates listed in the current permit. These outfall points have not been moved, instead the revised coordinates more accurately represent the actual location of those outfalls.

A map showing the location of these outfalls (and seeps which have been identified by the permittee) is included below as Figure 2.

Outfall	Latitude	Longitude	Decimal Degrees	Receiving Water
001	39° 55' 06"	-87° 24' 50"	39.9182, -87.4140	Wabash River
002	39° 54' 50"	-87° 24' 42"	39.9139, -87.4117	Wabash River
003	39° 55' 33"	-87° 25' 28"	39.9258, -87.4244	Wabash River
004	39° 55' 34"	-87° 25' 46"	39.9261, -87.4294	Unnamed tributary of the Wabash River
101	39° 55' 18"	-87° 25' 42"	39.9217, -87.4283	Outfall 001 Discharge Canal
102	39° 55' 20"	-87° 25' 37"	39.9222, -87.4269	Outfall 002 Discharge Canal

Figure 2. Map showing location of Outfalls



3.0 PERMIT MODIFICATION

3.1 Modification Request

The permittee submitted their initial modification request on January 11, 2021, which is detailed under Section A, below. On May 27, 2021, the permittee submitted Revision 0 of the Initial Certification Statement to Discharge Bottom Ash Transport Water, which was dated May 24, 2021, followed by a submittal on June 4, 2021, with a corrected version of this document, Revision 1, dated June 1, 2021, which is summarized under Section B, below. On August 2, 2021, IDEM requested additional information from the permittee and the permittee responded to this request on September 1, 2021, which is summarized under Section C, below. On September 21, 2021, the permittee requested an additional revision of its permit which is described under Section D, below. On October 9, 2021, the permittee submitted a notice of planned participation under 40 CFR 423.19(f); Permanent Cessation of Coal Combustion by December 31, 2028, which is summarized under Section E., below. This notice of planned participation necessarily changes and supplants some of the permittee's earlier revision requests.

A. Initial Modification Request-January 11, 2021

Duke Energy requested incorporation of recently updated regulations and technology based effluent limits (TBEL) as set forth in 40 CFR Part 423. Specifically, Duke Energy requested that the flue gas desulphurization (FGD) wastewater TBELs be updated pursuant to the 2020 Steam Electric Reconsideration Rule (85 Fed. Reg. 64,650 (Oct. 13, 2020)) and that terms related to the release of bottom ash purge water be clarified to align with those revisions as well. The 2020 Steam Electric Reconsideration Rule was published in the Federal Register on October 13, 2020 with a December 13, 2020 effective date. The rule states that "Where permits with the 2015 rule limitations have already been issued, EPA expects that the final rule requirements will be incorporated through permit modifications in most cases." 85 Fed. Reg. at 64,705. Details regarding Duke Energy's requested modifications are set forth below.

FGD Wastewater Best Available Technology Economically Achievable (BAT)

Based on the revised numeric limits that were promulgated for FGD Wastewater (BAT) as part of the 2020 Steam Electric Reconsideration Rule, Duke Energy requested the following changes be made to the discharge limitations for Outfall 101 – Final Option 1.

Pollutant	Outfall 101 - Final Option 1		Requested Change to Outfall 101 - Final Option 1	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum
Arsenic	8 ug/L	11 ug/L	8 ug/L	18 ug/L
Mercury	356 ng/L	788 ng/L	34 ng/L	103 ng/L
Selenium	12 ug/L	23 ug/L	29 ug/L	70 ug/L
Dissolved Solids, Total	Report	Report	Report	Report
Nitrate/Nitrite	4.4 ug/L	17 ug/L	3 mg/L	4 mg/L

Voluntary Incentive Program (VIP) for FGD Wastewater Direct Dischargers

Based on the revised numeric limits that were promulgated for dischargers who voluntarily choose to meet the effluent limitations for FGD wastewater pursuant to the VIP (40 CFR 423.13(g)(3)(i)), Duke Energy requested the following changes be made to the discharge limitations for Outfall 101– Final Option 2.

Pollutant	Outfall 101 - Final Option 2		Requested Change to Outfall 101 - Final Option 2	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum
Arsenic	Report	4 ug/L	NA	5 ug/L
Mercury	24 ng/L	39 ng/L	10 ng/L	23 ng/L
Selenium	Report	5 ug/L	NA	10 ug/L
Nitrate/Nitrite	Report	Report	1.2 mg/L	2.0 mg/L
Bromide	NA	NA	NA	0.2 mg/L
Dissolved Solids, Total	24 mg/L	50 mg/L	149 mg/L	306 mg/L

Pursuant to 40 CFR 423.13(g)(3)(i), dischargers who choose to meet the effluent limitations for FGD wastewater in the above table must meet such limitations by December 31, 2028. These effluent limitations apply to the discharge of FGD wastewater generated on and after December 31, 2028. Duke Energy requested that the effective compliance date in Footnote 2 of the Outfall 101 discharge limitations be updated from December 31, 2023, to December 31, 2028. If Cayuga Station opts to comply with the Voluntary Incentive Program requirements of 40 CFR 423.13(g)(3)(i) by December 31, 2028, a *Notice of Planned Participation* will be submitted to IDEM no later than October 13, 2021.

Permanent Cessation of Coal Combustion by December 31, 2028 (PC3 EGUs)

The 2020 Steam Electric Reconsideration Rule created a new boiler subcategory for electric generating units permanently ceasing coal combustion by 2028 (40 CFR 423.11(w)).

Duke Energy's 2018 Integrated Resource Plan's ("IRP") showed a retirement of Cayuga U1-2 in 2028 in the portfolio viewed as most beneficial to Indiana customers. Please see the Preferred Portfolio in the IRP pg. 96 (995MW of coal retired in 2028). Duke Energy's 2019 Rate Case Depreciation Study was approved by the Indiana Utility Regulatory Commission (IURC) that accelerated the accounting retirement dates for Cayuga U1-2 from 2035 and 2037 respectively to 2028. While neither of the actions are final commitments to retire the units in 2028, they both are steps typically carried out by utilities with that end in mind. Duke Energy is planning to submit another IRP in November 2021. As part of that public stakeholder process, Duke Energy will test the economics of various ELG compliance options leading up to the IRP submittal. With that refreshed analysis in hand, Duke Energy would appreciate the opportunity to transition to another option if the aforementioned IRP analysis informs and stakeholder process indicates that it is in the Indiana's customers best interest to do so.

Duke Energy requested that this new boiler subcategory be included as compliance Option 3 at Outfall 101. Pursuant to 40 CFR 423.12, the effluent limitation guidelines for discharges qualifying under this subcategory would be subject to the application of the best practical control technology currently available (BPT) limits of 100 mg/L (maximum) and 30 mg/L (average) for total suspended solids, and 20 mg/L (maximum) and 15 mg/L (average) for oil & grease.

As required by 40 CFR 423.19(f), if Cayuga Station seeks to qualify as an electric generating unit that will achieve permanent cessation of coal combustion by December 31, 2028, a *Notice of Planned Participation* will be submitted to IDEM no later than October 13, 2021.

Provisions for Transferring between Applicable Limitations

Duke Energy requested that the provisions for transferring between VIP (Final Option 2) and PC3 EGUs (Proposed Option 3) limitations be incorporated into the effluent limitations and monitoring requirements for Outfall 101. Specifically, 40 CFR 423.13(o)(1) states the following:

Where, in the permit, the permitting authority has included alternative limits subject to eligibility requirements, upon timely notification to the permitting authority under § 423.19(i), a facility can become subject to the alternative limits under the following circumstances: . . . (ii) On or before December 31, 2025 a facility may convert (A) [f]rom voluntary incentives program limitations . . . to limitations for electric generating units permanently ceasing coal combustion . . . ; or (B) [f]rom limitations for electric generating units permanently ceasing coal combustion . . . to voluntary incentives program limitations.

FGD Wastewater Bioreactor Pilot Study at Outfall 101

On December 20, 2019, Duke Energy notified IDEM regarding the future installation of required processes and treatment systems at internal Outfall 101 to comply with the 2015 Steam Electric Power Generating Effluent Guidelines (40 CFR Part 423) and the Permit. As part of the notification, Duke selected Chemical Precipitation followed by Low Hydraulic Residence Time Biological Reduction for FGD wastewater treatment Final Option 1. Duke Energy subsequently notified IDEM on March 11, 2020 of the intent to evaluate the bioreactor technology through a pilot study at the Site. An overview of the findings and recommendations from the 2020 Bioreactor Demonstration Study are provided in Attachment 1 of the modification application and summarized below.

The pilot study was originally planned for a duration of six months; however, the study was reduced to four months as a result of COVID-19 shipping delays influenced by both government mandated restrictions and contractor/personnel quarantines. In addition, unforeseen process delays were experienced when the carbon beds scaled and a pH control system required installation. The scaling significantly impacted the performance of the bioreactor and required immediate resolution prior to restarting the study.

At the completion of the shortened, four-month pilot, critical questions remain that need to be answered prior to finalizing the design of a full-scale system. The primary concerns stem from: 1) higher than average nitrates observed at Cayuga Station and its impact to the system's reproducibility of selenium compliance, 2) the inability to comply with the lower mercury limits established in the 2020 Steam Reconsideration Rule, 3) an additional control technology for mercury has not yet been tested at the Station and 4) the lack of certainty of system behavior/performance as the inter-dependence of the previous items are varied through normal operating ranges.

Duke Energy is planning to conduct a supplemental Bioreactor Pilot Study in the spring and summer of 2021 to simulate the proposed full-scale system, with expectations of achieving the new nitrate, selenium and mercury compliance limits as outlined in the 2020 Steam Reconsideration Rule.

In consideration of the information presented above and in Attachment 1, Duke Energy requested that the effective date for Final Option 1 at Outfall 101 be changed from May 31, 2023 to June 1, 2024.

Bottom Ash Purge Water Allowance

For the discharge limitations at Outfall 002, footnote 2 of the Permit states that “effective December 31, 2021, there shall be no discharge of pollutants in bottom ash sluice water (also known as bottom ash transport water).”

Duke Energy requested that “bottom ash purge water” be added as a contributing waste stream to the lined retention basin for Outfall 002. The bottom ash purge water is produced by the blow down from the submerged flight conveyors (SFC) bottom ash handling system. Based on our operating experience, intermittent releases from the high recycle bottom ash system are necessary to ensure proper water chemistry and water balance are managed according to best engineering practices. The bottom ash average daily purge flow would be

no more than 10% of submerged flight conveyor's water volume and routine purge would be directed to the lined retention basin. In accordance with the 2020 Steam Electric Reconsideration Rule, Duke Energy requested that the Permit be revised to include a 30-day rolling average of no more than ten percent of the SFC purge water flow volume per day. Pursuant to 40 CFR 423.19(c)(1), Duke Energy will also submit its initial certification statement regarding bottom ash purge water as set forth in the rule. Attachment 2 of the modification application provided additional supporting information.

B. Initial Certification Statement to Discharge Bottom Ash Transport Water-June 4, 2021

On May 27, 2021, the permittee submitted Revision 0 of the Initial Certification Statement to Discharge Bottom Ash Transport Water, which was dated May 24, 2021, followed by a submittal on June 4, 2021, with a corrected version of this document, Revision 1, dated June 1, 2021.

This document was submitted as the initial certification statement required by 40 CFR 423.19(c). As required by this regulation, the certification statement included the following:

- i. A statement that the professional engineer is a licensed professional engineer.
- ii. A statement that the professional engineer is familiar with the regulation requirements.
- iii. A statement that the professional engineer is familiar with the facility.
- iv. The primary active wetted bottom ash system volume in 40 CFR § 423.1 I(aa).
- v. Material assumptions, information, and calculations used by the certifying professional engineer to determine the primary active wetted bottom ash system volume.
- vi. A list of all potential discharges under 40 CFR § 423.13(k)(2)(i)(A)(1) through (4), the expected volume of each discharge, and the expected frequency of each discharge.
- vii. Material assumptions, information, and calculations used by the certifying professional engineer to determine the expected volume and frequency of each discharge, including a narrative discussion of why such water cannot be managed within the system and must be discharged.
- viii. A list of all wastewater treatment systems at the facility currently, or otherwise required by a date certain under this section.
- ix. A narrative discussion of each treatment system including the system type, design capacity, and current or expected operation.

C. Submittal of Additional Information-August 2, 2021

Following the submittal of the initial modification application and the initial certification statement, IDEM requested additional information from the permittee on August 2, 2021. The permittee replied to this request for additional information on September 1, 2021.

IDEM Questions and Permittee Responses Regarding Recycle

- Duke appears to be requesting recycle for both precipitation events above the management capacity of the existing system and a continuous purge to assist with corrosion issues. What percent of the purge is Duke proposing to allocate for each?

Cayuga Station is requesting the maximum 10 percent 30-day rolling average purge rate from the system and the ability to purge to the FGD Scrubber as outlined in the 2020 Steam Electric Reconsideration Rule.

- Duke indicated that the bottom ash system would experience corrosion issues that require chemical addition even with a 100% purge. Has Duke successfully operated the system at a recycle rate above 90% through use of its chemical addition system? If so, what was the maximum recycle rate achieved with the current chemical addition system? Can Duke provide information supporting these various operations?

No, Cayuga Station has not successfully operated the system above 90% through the use of its chemical addition system. Cayuga Station utilizes caustic to maintain pH in the system and mitigate corrosion concerns. The facility utilizes conductivity as a means to monitor the bottom ash system chemistry to determine when purge from the system required. Presently, this results in an estimated volume of ~20,000 gallons on average being purged on a monthly basis. Purging from the SFC system is a manual process performed by an operator and been higher in the past prior to caustic being added. Present purging operation however has not been adequate to address scaling concerns.

IDEM Questions and Permittee Regarding BA Purge Sent to FGD System

- The constituent concentrations in the bottom ash purge water provided by Duke appear to be below the levels that would lead to FGD interference. Has Duke experienced periods of FGD system performance issues when feeding bottom ash as feed water? Can Duke provide information documenting these issues?

Cayuga Station has not sent bottom ash as feed water to the FGD System. The facility is requesting additional time to perform a pilot study that would involve sending bottom ash water at various amounts to determine if any detrimental impacts occur in the FGD Scrubber. The permittee provided a technical justification and summary documents relating to the planned Pilot Study.

In addition, the permittee provided the following information:

The current NPDES permit (IN0002763) has a no discharge provision for bottom ash transport water (BATW) [from Outfall 002], effective December 31, 2021. This no discharge date for BATW was previously established in 2018 as part of the recurring five-year permit renewal cycle. During this time, the submerged flight conveyor was just becoming operational and had yet to be fully commissioned.

Since commissioning the system, the Station has not been successful operating the mechanical drag system as a closed loop system. The Station is planning to move forward with a Pilot Study that will involve sending bottom ash transport water to a

single FGD absorber at various purge rates and volumes over several two-week periods. The pilot study will review scrubber operations, scrubber chemistry, gypsum quality, FGD wastewater treatment, bottom ash system cycle chemistry impacts with various bottom ash purge rates, and the permanent mechanical changes that would be required to be made to convey the purged bottom ash wastewater to the FGD scrubber. The permittee provided a technical justification and study design information for the Cayuga Station SFC BATW purge to FGD Scrubber Pilot Study.

Based on the information presented in the Initial Certification and in this response email, Duke requests a delay to the no discharge of BATW date that is currently stipulated in the Permit for Outfall 002.

D. Request for an Additional Revision-September 21, 2021

On September 21, 2021, the permittee requested the inclusion in the permit modification a revision related to TRC monitoring at Outfall 001, as follows:

The permitted wastestreams for this outfall are once-through cooling water, FGD wastewater, and stormwater. As the permit is currently written, Outfall 001 falls under either the “continuous” or “intermittent” category for chlorinating, and as such, analysis of total residual chlorine is required to be completed at a minimum 1x Daily.

The Station has confirmed that active chlorination has been occurring infrequently. It’s not uncommon for the Station to go for several months without using a chlorine compound that would contribute to the outfall.

Would IDEM be amendable to including an additional footnote for Outfall 001 that reads similar to Footnote 10 for TRO, but applies to chlorine?

Footnote 10 reads as follows: “The monitoring requirements and effluent limitations for total residual oxidants (TRO) will apply any time bromine or bromine compounds are used in the water or wastewater streams contributing to this outfall.”

E. Submission of Notices of Planned Participation-October 9, 2021

On October 9, 2021, the permittee submitted a letter containing a notice of planned participation (NOPP) pursuant to 40 CFR 423.19(f); Permanent cessation of coal combustion by December 31, 2028 and also noted that if the permittee decided to continue the combustion of coal in units 1 or 2 past December 31, 2028, the permittee would submit a notice on or before December 31, 2025 of its intention to comply with the voluntary incentive program requirements by the December 31, 2028 deadline. More specifically, the letter stated as follows:

In accordance with the provisions of the Steam Electric Effluent Limitations Guidelines (ELG), Duke Energy Indiana, LLC (“Duke Energy”) is hereby providing a Notice of Planned Participation (NOPP) for the Cayuga Generating Station, NPDES Permit No. IN002763, to permanently cease the combustion of coal by the expected date of December 31, 2028. However, if Units 1 and/or 2 do not cease combustion of coal, then pursuant to the ELG, Duke Energy reserves the alternative option to implement necessary technology to comply with the Voluntary Incentives Program (VIP) by

December 31, 2028. Supporting information for this NOPP as required by 40 CFR § 423.19(f)(2) is set forth below.

Please note that the provided retirement dates are subject to change based on several factors, including future regulatory actions. Any substantive retirement date changes will be provided in the required 40 CFR § 423.19(f)(4) “Annual Progress Report”.

I. Cessation of Coal Combustion by December 31, 2028

This NOPP applies to the two coal-fired units at Cayuga Generating Station, designated as Units 1 and 2, which are both currently projected to retire on or before December 31, 2028.

The retirement dates for Units 1 and 2 are contained in the 2018 Integrated Resource Plan (IRP) that was filed with the Indiana Utility Regulatory Commission (IURC) on July 1, 2019. An excerpt from the 2018 IRP is included as Attachment 1 [of the NOPP]. In addition, the IURC approved Duke Energy’s 2019 Rate Case Depreciation Study, which accelerated the accounting retirement dates for Cayuga Units 1 and 2 from 2035 and 2037, respectively, to 2028. While neither of these actions are final commitments to retire the units in 2028, they are both steps that Duke Energy typically carries out with that end in mind.

The official retirement of the Cayuga coal-fired units will require final management approval and is contingent on the successful development of replacement generation, along with other operational considerations. In addition, the Midcontinent Independent System Operator (MISO) must study any resulting system reliability impacts.

The timeline to achieve the permanent cessation of coal combustion by December 31, 2028 is as follows:

- Evaluate the validity of the anticipated retirement dates for Unit 1 and Unit 2 by October 1 of each calendar year.
- Monitor future IRP filings for changes in the currently planned retirements of the units in 2028. DEI is scheduled to file its next IRP on November 1, 2021 and does so every 3 years.
- Following the IRP filings, DEI will solicit bids from the market for generation assets resulting from retirements informed by the IRP. Future regulatory proceedings requesting recovery of the new assets will solidify the retirement dates of the assets being replaced.
- At the appropriate time, DEI will file with MISO the necessary request to permanently retire the units. This request must be made at least 26 weeks before the requested retirement date, but DEI expects to much sooner, shortly after the replacement generation is approved.
- MISO will then study the retirement requests to determine if any unavoidable system reliability impacts exist and in the absence of any, will approve the

retirements. If MISO determines that unavoidable system reliability impacts do exist, DEI will notify IDEM pursuant to 40 CFR § 423.18-19.

- In accordance with the ELG, an “Annual Progress Report” will be submitted to IDEM beginning October 1, 2022. See 40 CFR § 423.19(f)(4). The Annual Progress Report will provide updated retirement information for the two coal-fired generating units at Cayuga Station, including activities to facilitate retirement, and copies of relevant documents. Subsequent Annual Progress Reports will be submitted by October 1 of each following year until both Cayuga Station coal-fired units are retired or, alternatively, if Duke Energy notifies IDEM that Cayuga Station will transition to the VIP, as discussed below, Annual Progress Reports will be submitted to IDEM in accordance with those regulations.

II. Voluntary Incentive Program - Transfer Between Applicable Limitations

Pursuant to 40 CFR § 423.13(o)(1)(ii)(B), if Duke Energy decides to continue combustion of coal in Units 1 and 2 beyond December 31, 2028, the company will notify IDEM on or before December 31, 2025 of its intention to comply with the VIP requirements by the December 31, 2028 deadline. The updated Notice of Planned Participation will state the reason why such a transfer is warranted and the steps that Cayuga Station will take to maintain compliance with the ELG. See 40 CFR § 423.19(i)(2). The opportunity to transfer to the VIP option is necessary as the planned December 31, 2028 retirement date is contingent on numerous factors, some of which are outside of Duke Energy’s control, and the 2018 IRP does not constitute a firm commitment to retire Units 1 and 2 at Cayuga Station.

3.2 IDEM’s Proposed Modification

A. Evaluation of the Notice of Planned Participation

i. Notice of Planned Participation-General

As noted above, on October 9, 2021 the permittee submitted a notice of planned participation (NOPP) pursuant to 40 CFR 423.19(f). This regulation states as follows:

- (f) Requirements for units that will achieve permanent cessation of coal combustion by December 31, 2028.
 - (1) Notice of Planned Participation. For sources seeking to qualify as an electric generating unit that will achieve permanent cessation of coal combustion by December 31, 2028, under this part, a Notice of Planned Participation shall be made to the permitting authority, or to the control authority in the case of an indirect discharger, no later than October 13, 2021.
 - (2) Contents. A Notice of Planned Participation shall identify the electric generating units intended to achieve the permanent cessation of coal combustion. A Notice of Planned Participation shall include the expected date that each electric generating unit is projected to achieve permanent cessation of coal combustion, whether each date represents a retirement or a fuel conversion, whether each

retirement or fuel conversion has been approved by a regulatory body, and what the relevant regulatory body is. The Notice of Planned Participation shall also include a copy of the most recent integrated resource plan for which the applicable state agency approved the retirement or repowering of the unit subject to the ELGs, certification of electric generating unit cessation under [40 CFR 257.103\(b\)](#), or other documentation supporting that the electric generating unit will permanently cease the combustion of coal by December 31, 2028. The Notice of Planned Participation shall also include, for each such electric generating unit, a timeline to achieve the permanent cessation of coal combustion. Each timeline shall include interim milestones and the projected dates of completion.

- (3) Annual Progress Report. Annually after submission of the Notice of Planned Participation in paragraph (f)(1) of this section, a progress report shall be filed with the permitting authority, or control authority in the case of an indirect discharger.
- (4) Contents. An Annual Progress Report shall detail the completion of any interim milestones listed in the Notice of Planned Participation since the previous progress report, provide a narrative discussion of any completed, missed, or delayed milestones, and provide updated milestones.

As the permittee stated more than once in its notice of planned participation letter, the December 31, 2028 retirement date for the Duke Cayuga facility is not certain and is subject to change based on several factors. “The official retirement of the units will require final management approval and is contingent on the successful development of replacement generation along with other operational consideration. In addition, the Midcontinent Independent System Operator (MISO) must study any resulting system reliability impacts.”

With these uncertainties, IDEM would be concerned with using the permanent cessation of coal combustion by December 31, 2028 as the basis for BAT permit limits for the FGD and bottom ash transport water wastestreams unless alternative BAT requirements are also included in the permit which would be applicable if the permittee did not permanently cease coal combustion by December 31, 2028. This is the case. Alternative BAT requirements would apply to the FGD and bottom ash transport water wastestreams if the permittee does not permanently cease coal combustion by December 31, 2028. These alternative BAT requirements are proposed to be included in this permit.

In addition, under 40 CFR 423.19(f)(2), the permittee must submit a timeline to achieve the permanent cessation of coal combustion and this timeline must contain interim milestones and the projected dates of completion. The timeline submitted provided by the permittee (see Part 3.1.E., above) does not appear to meet these specific requirements. The primary three milestones appear to consist of the following three tasks:

Task #	Permittee's Language	IDEM's Interpretation
1	Following the IRP filings, DEI will solicit bids from the market for generation assets resulting from retirements informed by the IRP. Future regulatory proceedings requesting recovery of the new assets will solidify the retirement dates of the assets being replaced	Obtain generation assets sufficient to replace the generating capacity of the units being retired. This could include the purchase of power from other sources or constructing new generating units, or some combination of the two. IURC review and approval may be needed
2	At the appropriate time, DEI will file with MISO the necessary request to permanently retire the units. This request must be made at least 26 weeks before the requested retirement date, but DEI expects to much sooner, shortly after the replacement generation is approved.	Request MISO approval to retire the units. This request must be made at least 26 weeks before the requested retirement date but is expected to be much sooner.
3	MISO will then study the retirement requests to determine if any unavoidable system reliability impacts exist and in the absence of any, will approve the retirements. If MISO determines that unavoidable system reliability impacts do exist, DEI will notify IDEM pursuant to 40 CFR § 423.18-19.	Obtain MISO approval of the retirements.

The permittee did not provide expected dates of completion for any of these steps, except for the second step in which they said that they were required to request MISO approval at least 26 weeks prior to the requested retirement date but would likely submit it much earlier. IDEM recognizes that the permittee is currently in the process of developing a new integrated resource plan (IRP), which could impact the timing of all three of the above steps. Therefore, IDEM is proposing in the permit that the permittee submit an updated timeline within 90 days of the effective date of the permit modification that provides a summary of and reflects the new IRP. At a minimum, this timeline should include the anticipated date by which the permittee intends to solicit bids from the market for generation assets to replace the units that will be retiring, a general description of the solicitation, and the anticipated period of time that the solicitation will be open for bids. Further, the permittee should provide an estimate of the amount of time that they anticipate will be needed to evaluate and make a decision with respect to the bids.

With these considerations and additions, IDEM has determined that the notice of planned participation is satisfactory.

ii. Impact of Notice of Planned Participation on FGD and BATW BAT Requirements

Submission of the NOPP under 40 CFR 413.19(f) affects the BAT requirements for both the flue gas desulfurization (FGD) and bottom ash transport water (BATW) wastestreams.

For the FGD wastestream, under 40 CFR 423.13(g)(2)(i), “[f]or any electric generating unit ... for which the owner has submitted a certification pursuant to §423.19(f), the quantity of

pollutants discharged in FGD wastewater shall not exceed the quantity determined by multiplying the flow of FGD wastewater times the concentration listed for TSS in §423.12(b)(11).”

Therefore, for the FGD wastestream, after submission of this NOPP, the BPT limit for TSS is the applicable BAT requirement instead of the generally applicable BAT limits for arsenic, mercury, selenium, and nitrate/nitrite.

For the bottom ash transport water, under 40 CFR 423.13(k)(2)(ii), “[f]or any electric generating unit ... for which the owner has certified to the permitting authority that it will cease combustion of coal pursuant to § 423.19(f), the quantity of pollutants discharged in bottom ash transport water shall not exceed the quantity determined by multiplying the flow of the applicable wastewater times the concentration for TSS listed in § 423.12(b)(4).”

Therefore, for the bottom ash transport water, after submission of this NOPP, the BPT limit for TSS is the applicable BAT requirement instead of the generally applicable BAT requirement that no discharge of the bottom ash transport water is allowed.

As discussed above, and as clearly stated by the permittee, it is not certain that the permittee’s coal fired generating units will cease combustion of coal by the December 31, 2028 deadline. However, alternative BAT requirements would apply to the FGD and bottom ash transport water wastestreams the permittee does not permanently cease coal by December 31, 2028.

In its October 2021 letter, the permittee did select an alternative set of BAT requirements for the FGD wastestream which would be applicable if the coal fired generating units did not cease combustion of coal by December 31, 2021, which were the voluntary incentive program requirements under 40 CFR 423.19(13(g)(3)(i). These alternative requirements are proposed to be included in the permit and are discussed in more detail under Part 3.2.B., below.

The permittee did not specifically select an alternative set of BAT requirements for the bottom ash transport water wastestream which would be applicable if the coal fired generating units did not cease combustion of coal by December 31, 2021. The permit proposes to include an alternative set of BAT requirements for the bottom ash transport water wastestream that would be applicable the coal fired generating units did not cease combustion of coal by December 31, 2021. These alternative limits are discussed in more detail in Part 3.2.C., below.

iii. Transfer Between Alternative BAT Requirements for FGD and BATW

EPA’s 2020 Steam Electric Reconsideration Rule established specific provisions that would be applicable if a permittee wanted to transfer from one set of BAT requirements in a permit to an alternative set of BAT requirements in a permit.

Under 40 CFR 423.19(i), if a permittee has filed a notice of planned participation under 40 CFR 423.19(f)(1) [permanent cessation of coal combustion by December 31, 2028] and intends to make a change that would qualify them for a different set of BAT requirements, the permittee is required to submit a notice of planned participation to IDEM no later than

the date specified in 40 CFR 423.13(o)(1). A notice of planned participation shall include a list of the electric generating units for which the source intends to change compliance alternatives. For each such electric generating unit, the notice shall list the specific provision under which this transfer will occur, the reason such a transfer is warranted, and a narrative discussion demonstrating that each electric generating unit will be able to maintain compliance with the relevant provisions.

Under 40 CFR 423.13(o)(1), different deadlines are applicable depending on the type of transfer requested.

For FGD wastewater, under 40 CFR 423.13(o)(1)(ii)(B), on or before December 31, 2025, a facility may convert from BAT limitations for electric generating units permanently ceasing coal combustion under 40 CFR 423.13(g)(2)(i) to the voluntary incentives program BAT limitations under 40 CFR 423.13(g)(3)(i). In addition to the general information required under 40 CFR 423.19(i)(2), IDEM is proposing to require that the notice of planned participation for a transfer from the permanent cessation of coal combustion by December 31, 2028 under 40 CFR 423.13(g)(2)(i) to the voluntary incentives program BAT limitations under 40 CFR 423.13(g)(3)(i) include the information required for a notice of planned participation for the voluntary incentives program under 40 CFR 423.19(h)(2) and the annual progress reports required by 40 CFR 423.19(h)(3) and (4).

For bottom ash transport water, under 40 CFR 423.13(o)(1)(ii)(B), on or before December 31, 2025, a facility may convert from BAT limitations for electric generating units permanently ceasing coal combustion under 40 CFR 423.13(k)(2)(ii) to the generally applicable BAT requirements under 40 CFR 423.13(k)(1)(i).

In addition, as required by 40 CFR 423.13(o)(2), a facility must be in compliance with all of its currently applicable requirements to be eligible to file a notice under 40 CFR 423.19(i) and to become subject to a different set of applicable requirements under 40 CFR 423.13(o)(1). Further, as specified by 40 CFR 423.13(o)(3), where a facility is seeking a transfer under 40 CFR 423.13(o)(1)(ii) is currently subject to more stringent limitations than the limitations being sought, the facility must continue to meet those more stringent limitations.

B. Outfall 101: Flue Gas Desulfurization (FGD) Requirements

At Outfall 101, the current permit contains limitations for the flue gas desulfurization (FGD) wastestream. For the BAT limited parameters, the permit contains Interim limits, Final Option 1 limits and Final Option 2, limits.

In the current permit, the Interim limits are the limits which are currently in effect. The Final Option 1 limits in the permit are the generally applicable BAT limits for FGD wastestreams established under the version of 40 CFR 423.13(g)(1) that was in effect when the permit was issued, and the Final Option 2 limits are voluntary incentive program under the version of 40 CFR 423.13(g)(3) that were in effect when the permit was issued. If the permittee selected Final Option 1, then the Final Option 1 limits and monitoring requirements would be effective on May 31, 2023. If the permittee selected Final Option 2, then the Final Option 2 limits and

monitoring requirements would be effective on December 31, 2023. The Interim requirements would remain in effect until such time that either the Final Option 1 or 2 limits and monitoring requirements became effective.

EPA's Steam Electric Reconsideration Rule, which was published on October 13, 2020, and effective December 14, 2020, changed the BAT limits and deadlines applicable to this wastestream. Further in addition to the changes to the generally applicable BAT limits for the FGD wastestream and the BAT limits applicable under the voluntary incentive option, these regulations established BAT limits that would apply to facilities that were going to permanently cease coal combustion by December 31, 2028.

In its initial modification request, the permittee requested that all three sets of these BAT limits be included in the permit with a provision allowing the permittee to transfer between the three sets of limits as specifically authorized under the new regulations and has requested that the compliance deadlines be revised pursuant to the new compliance deadlines in the regulation.

However, the notice of planned participation submitted by the permittee in October 2021 changed the limits that would be included in the permit. The generally applicable FGD BAT limits will no longer be included in the permit. All of the limits denoted as Interim limits will remain in the permit as Interim limits. The BAT limits applicable to a facility that is going to permanently cease coal combustion by December 31, 2028 will apply in this permit upon the effective date of the permit modification. However, since the BAT limits applicable to a facility that is going to permanently cease coal combustion by December 31, 2028 are the same as the BPT limits for TSS already included in the permit, no change to the TSS limits is being proposed in this permit modification. The voluntary incentive program BAT limits in the current version of 40 CFR 423.13(g)(3) will be included as new, Final Option 1 limits. The permit will no longer include limits identified as Final Option 2 limits. More information on these limits is provided below.

i. BAT Limits Applicable to A Facility That Will Permanently Cease Coal Combustion by December 31, 2028 (40 CFR 423.13(g)(2)(i))

In EPA's Steam Electric Reconsideration Rule, a new category of limits for FGD wastewaters was added. Under 40 CFR 423.13(g)(2)(i), if a facility certifies under 40 CFR 423.19(f) that the electric generating unit will cease combustion of coal no later than December 31, 2028, the quantity of pollutants discharged in FGD wastewater shall not exceed the quantity determined by multiplying the flow of FGD wastewater times the concentration listed for TSS in §423.12(b)(11).

The TSS limits in 40 CFR 423.12(b)(11) are 30.0 mg/l and a monthly average and 100.0 mg/l as a daily maximum. These are the concentration limits currently in effect at Outfall 101. Therefore, no changes are being proposed to these limits in this permit modification.

The currently effective BPJ BAT limits for arsenic, cadmium, chromium, copper, lead, and mercury would remain in effect at Outfall 101.

ii. Voluntary Incentive Program-New Final Option 1 (40 CFR 423.13(g)(3)(i))

The permittee's current Interim limits, voluntary incentive program limits (denoted as Final Option 2 limits in the current permit) and the voluntary incentive program limits that IDEM are proposing as the new Final Option 1 limits are as follows:

Outfall 101						
Pollutant	Current Interim Limits		Current Final Option 2 Limits		Proposed Final Option 1 Limits	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum
Arsenic	Report	85 ug/l	Report	4 ug/L	Report	5 ug/L
Mercury	Report	50,000 ng/l	24 ng/L	39 ng/L	10 ng/L	23 ng/L
Selenium	Report	Report	Report	5 ug/L	Report	10 ug/L
Nitrate/Nitrite	Report	Report	Report	Report	1.2 mg/L	2.0 mg/L
Bromide	NA	NA	NA	NA	Report	0.2 mg/L
Dissolved Solids, Total	Report	Report	24 mg/L	50 mg/L	149 mg/L	306 mg/L

Bromide is proposed to be added to the permit since the revised EPA regulations included bromide limits for the voluntary incentive option. The Interim requirement for bromide will be report only for both the monthly average and daily maximum. All the other Interim requirements in the above table will remain unchanged. The current Final Option 1 limits in the permit will be replaced with the proposed Final Option 1 limits in the above table. The permit will not contain any Final Option 2 limits.

The current permit requires compliance with the voluntary incentive program limits by December 31, 2023, if this Option was selected. This was the deadline established in the federal regulations for these voluntary incentive program limits prior to the changes made by EPA's Steam Electric Reconsideration Rule. The permittee has requested that the deadline in the permit be changed to December 31, 2028, to reflect the current regulatory requirements. IDEM proposes to change this deadline to December 31, 2028, as requested.

These voluntary incentive program BAT requirements are alternative BAT requirements that would only apply if the permittee would combust coal after December 31, 2028.

As discussed under Part 3.2.A.iii., above, EPA's Steam Electric Reconsideration Rule established specific requirements that must be met to transfer from one set of limits to an alternative set of limits. These transfer requirements are proposed to be incorporated into the permit to allow the permittee to transfer from the BAT limits applicable to facilities that will cease combustion of coal no later than December 31, 2028 to the BAT limits applicable under the voluntary incentive program.

B. Outfall 002: Bottom Ash Transport Water Requirements

At Outfall 002, the current permit requires that there shall be no discharge of pollutants in bottom ash sluice water effective December 31, 2021 (Footnote [2]). No discharge of bottom ash transport water was the only available BAT requirement provided in the regulations when the permit was issued. Two alternatives to this no discharge requirement were added as part of the Steam Electric Reconsideration Rule. One alternative that was added was to allow the discharge of bottom ash purge water if certain requirements were first met. The second

alternative provided BAT limits that would be applicable if a facility was going to permanently cease coal combustion by December 31, 2028.

In the permittee's initial modification request, the permittee requested that the permit be revised to authorize the discharge of bottom ash purge water as allowed under the EPA regulations promulgated as part of the Steam Electric Reconsideration Rule. This regulation and the permittee's submittal are discussed in more detail below. However, as discussed above, on October 9, 2021 the permittee submitted a notice of planned participation (NOPP) pursuant to 40 CFR 423.19(f). With this submission, the BAT limits for a facility that is going to permanently cease coal combustion by December 31, 2028 became the applicable BAT requirements for bottom ash transport water at this facility. The BAT limits applicable to a facility that is going to permanently cease coal combustion by December 31, 2028 will be apply in this permit upon the effective date of the permit. However, since the BAT limits applicable to a facility that is going to permanently cease coal combustion by December 31, 2028 are the same as the BPT limits for TSS that were used to develop the TSS limits in the permit, no changes to the TSS limits are being proposed in this permit modification. IDEM will be reevaluating the TSS limits at Outfall 002 during the renewal of this permit using the building block approach referenced in the 2010 EPA NPDES Permit Writers' Manual. The BAT requirement under 40 CFR 423.13(k)(1) that there be no discharge of bottom ash purge water will be included as an alternate BAT requirement that would be applicable if the facility does not permanently cease the discharge of bottom ash purge water by December 31, 2028. More information on these requirements is provided below.

i. BAT Requirements Applicable to A Facility That Will Permanently Cease Coal Combustion by December 31, 2028 (40 CFR 423.13(k)(2)(ii))

In EPA's Steam Electric Reconsideration Rule, a new category of limits for bottom ash transport water was added. Under 40 CFR 423.13(k)(2)(ii), if a facility certifies under 40 CFR 423.19(f) that the electric generating unit will cease combustion of coal no later than December 31, 2028, the quantity of pollutants discharged in for bottom ash transport water shall not exceed the quantity determined by multiplying the flow of FGD wastewater times the concentration listed for TSS in §423.12(b)(4).

The TSS limits in 40 CFR 423.12(b)(4) are 30.0 mg/l and a monthly average and 100.0 mg/l as a daily maximum. These BPT TSS limits were used as the basis for calculating the TSS limits currently in effect at Outfall 002. Therefore, no changes are being proposed to these limits in this permit modification. IDEM will be reevaluating the TSS limits at Outfall 002 during the renewal of this permit using the building block approach referenced in the 2010 EPA NPDES Permit Writers' Manual and information that the permittee has collected during this permit term.

The requirement in the permit that there shall be no discharge of pollutants in bottom ash transport water effective December 31, 2021 will be revised to make this an alternate BAT requirement that would be applicable if the permittee does not permanently cease combustion of coal by December 31, 2028.

ii. BAT Requirements Generally Applicable to Bottom Ash Transport Water (40 CFR 423.13(k)(1))

EPA's 2020 Steam Electric Reconsideration Rule established specific provisions that would be applicable if a permittee wanted to transfer from one set of BAT requirements in a permit to an alternative set of BAT requirements in a permit. For bottom ash transport water, under 40 CFR 423.13(o)(1)(ii)(B), a facility may convert from BAT limitations for electric generating units permanently ceasing coal combustion under 40 CFR 423.13(k)(2)(ii) to the generally applicable BAT limitations under 40 CFR 423.13(k)(1)(i).

The BAT requirements under 40 CFR 423.13(k)(1)(i) require that there be no discharge of pollutants in bottom ash transport water. Therefore, this requirement will be added as an alternative to the BAT requirements applicable to a facility that will cease combustion of coal no later than December 31, 2028 and this alternative requirement would only apply if the permittee would combust coal after December 31, 2028.

As discussed under Part 3.2.A.iii., above, EPA's Steam Electric Reconsideration Rule established specific requirements that must be met to transfer from one set of limits to an alternative set of limits. These transfer requirements are proposed to be incorporated into the permit to allow the permittee to transfer from the BAT limits applicable to facilities that will cease combustion of coal no later than December 31, 2028 to the BAT limits applicable under the voluntary incentive program.

iii. BAT Requirements Applicable to Bottom Ash Purge Water (40 CFR 423.13(k)(2)(i))

In the permittee's initial modification request and follow up supplemental information (see Part 3.1.A., B., and C., above), the permittee requested authorization to discharge bottom ash purge water as newly authorized under EPA's Steam Electric Reconsideration Rule. These provisions are included in 40 CFR 423.13(k)(2)(i).

The permittee requested that this purge water discharge be allowed in lieu of the no discharge requirement currently in the permit. The no discharge of bottom ash transport water requirement is the generally applicable BAT requirement for bottom ash transport water and is contained in 40 CFR 423.13(k)(1)(i).

However, the transfer provisions adopted as part of the EPA's Steam Electric Reconsideration Rule only, in relevant part, authorize the transfer from the BAT requirements applicable to a facility permanently ceasing coal combustion to the generally applicable BAT limitations under 40 CFR 423.13(k)(1)(i).

This transfer provision does not appear to specifically authorize a transfer from the BAT requirements applicable to a facility permanently ceasing coal combustion to the BAT requirements which allow the discharge of bottom ash purge water at 40 CFR 423.13(k)(2)(i).

However, this issue is still under consideration by IDEM. Even if this type of transfer was available, as discussed below, IDEM has not completed its review of the information submitted by the permittee with respect to its proposed bottom ash purge water discharge

request. Therefore, the permit does not propose to mention or reference this alternative. Since the current permit expires July 31, 2023 IDEM anticipates resolving this issue in the renewal of the permit instead of in this modification.

A discussion of the requirements applicable to the BAT requirement allowing the discharge of bottom ash purge water and the permittee's modification request is as follows:

As authorized by the EPA regulations promulgated as part of the Steam Electric Reconsideration Rule on October 13, 2020, 40 CFR 423.13(k)(2)(i)(A) provides:

The discharge of pollutants in bottom ash transport water from a properly installed, operated, and maintained bottom ash system is authorized under the following conditions:

- (1) To maintain system water balance when precipitation-related inflows are generated from storm events exceeding a 10-year storm event of 24-hour or longer duration (e.g., 30-day storm event) and cannot be managed by installed spares, redundancies, maintenance tanks, and other secondary bottom ash system equipment; or
- (2) To maintain system water balance when regular inflows from wastestreams other than bottom ash transport water exceed the ability of the bottom ash system to accept recycled water and segregating these other wastestreams is not feasible; or
- (3) To maintain system water chemistry where installed equipment at the facility is unable to manage pH, corrosive substances, substances or conditions causing scaling, or fine particulates to below levels which impact system operation or maintenance; or
- (4) To conduct maintenance not otherwise included in paragraphs (k)(2)(i)(A) (1), (2), or (3) of this section and not exempted from the definition of transport water in §423.11(p), and when water volumes cannot be managed by installed spares, redundancies, maintenance tanks, and other secondary bottom ash system equipment.

The total volume that may be discharged for the above activities shall be reduced or eliminated to the extent achievable using control measures (including best management practices) that are technologically available and economically achievable in light of best industry practice. The total volume of the discharge authorized in this subsection shall be determined on a case-by-case basis by the permitting authority and in no event shall such discharge exceed a 30-day rolling average of ten percent of the primary active wetted bottom ash system volume. The volume of daily discharges used to calculate the 30-day rolling average shall be calculated using measurements from flow monitors.

The BPT oil and grease and TSS effluent limitations guidelines limitations apply to the discharge of bottom ash purge water. EPA did not establish BAT limitations for bottom ash purge water. Instead, they noted in the preamble to these regulations that "BAT

limitations for any wastewater that is purged from a high recycle rate system and then discharged, should be established by the NPDES permitting authority on a case-by-case basis using BPJ.” Therefore, if IDEM did allow the discharge of bottom ash purge water, IDEM would need to develop BPJ BAT limits that would apply to the discharge of purge water.

The permittee included very detailed technical information in its request to be allowed to discharge bottom ash purge water. The permittee requested the maximum 10 percent 30-day rolling average purge rate from the system.

In the preamble to the regulations, EPA noted that “[b]ased on actual, measured purge rates in EPRI (2016), however, the Agency estimates that actual purge rates necessary on a day-to-day basis may be less than one percent of the system's volume, with higher purges necessary at less frequent intervals due to precipitation and maintenance.”

IDEM is still in the process of reviewing the technical information submitted with the request and is not ready to decide whether allowing a discharge of bottom ash purge water is warranted and if warranted the appropriate percentage of bottom ash transport water the permittee should be allowed to purge, and the limits that should apply to that wastestream. In addition, the permittee is conducting a pilot study to determine if bottom ash purge could be used in the FGD scrubber. Depending on the results of this pilot study, this could reduce or eliminate the need to discharge bottom ash purge water.

C. Outfall 001: Total Residual Chlorine Monitoring Requirements

At Outfall 001, the permit requires that the permittee to monitor for total residual chlorine daily. The permittee requested that the permit be modified to allow them to only monitor for chlorine when chlorine is being used. They stated that active chlorination has been occurring infrequently and that it is not common for them to go for several months without using a chlorine compound that would contribute to the outfall.

Upon a review of the permittee’s discharge monitoring reports (DMRs) and monthly monitoring reports (MMRs), the permittee has reported that they are using chlorine daily, 3 times daily for 40 minutes each time for a total of 120 minutes every day.

The permittee also frequently detects the presence of total residual chlorine in its effluent and reports it present at the limit of quantitation of 0.06 mg/l and above. In 2021, they have reported it present at or above the limit of quantitation in January 2021 at 0.06 mg/l; May 2021 at 0.07 mg/l; and July 2021 at 0.09 mg/l. Since they have been reporting intermittent usage of chlorine, the applicable limit in these months was 0.2 mg/l.

In further discussions, the permittee informed IDEM that “the chlorination frequency and dose duration values shown on the MMR/DMR for Outfall 001 are based on a timer system that is programmed to “open” and administer chlorine from a tank. The timer is programmed to operate in accordance with the discharge limitation requirements in the Station’s NPDES Permit. With that said, even if the timer system is showing “open” as part of its daily operating routine/schedule, the chlorine tank has remained empty for an extended period of time resulting in no chlorine actually being injected into the waste stream(s) that contribute to the Outfall. Although the MMR/DMR reports accurately reflect the operation of the timer for

when the system is open and can administer chlorine that would contribute to Outfall 001, the chlorine tanks have remained empty and not been used since 2020.”

Since the permittee has been reporting that they have been using chlorine daily on their DMRs and MMRs and since they frequently report total residual chlorine present in the effluent at Outfall 001 in detectible and quantifiable levels which appear to be consistent with a facility using chlorine; IDEM is not proposing to change the monitoring frequency for total residual chlorine in this permit modification.

3.3 Antibacksliding

Pursuant to 327 IAC 5-2-10(a)(11), unless an exception applies, a permit may not be renewed, reissued or modified to contain effluent limitations that are less stringent than the comparable effluent limitations in the previous permit. Although some of the limits included in this permit modification are less stringent than limits currently in the permit; none of the limits which are being replaced are currently in effect. Therefore, since the limits being replaced are not yet in effect, the antibacksliding provisions in Indiana’s rules do not prohibit these changes.

3.4 Antidegradation

Indiana’s Antidegradation Standards and Implementation procedures are outlined in 327 IAC 2-1.3. The antidegradation standards established by 327 IAC 2-1.3-3 apply to all surface waters of the state. The permittee is prohibited from undertaking any deliberate action that would result in a new or increased discharge of a bioaccumulative chemical of concern (BCC) or a new or increased permit limit for a regulated pollutant that is not a BCC unless information is submitted to the commissioner demonstrating that the proposed new or increased discharge will not cause a significant lowering of water quality, or an antidegradation demonstration submitted and approved in accordance 327 IAC 2-1.3-5 and 2-1.3-6.

The NPDES permit does not propose to establish a new or increased loading of a regulated pollutant; therefore, the Antidegradation Implementation Procedures in 327 IAC 2-1.3-5 and 2-1.3-6 do not apply to the permitted discharge.

3.5 Spill Response and Reporting Requirement

Reporting requirements associated with the Spill Reporting, Containment, and Response requirements of 327 IAC 2-6.1 are included in Part II.B.2.(d), Part II.B.3.(c), and Part II.C.3. of the NPDES permit. Spills from the permitted facility meeting the definition of a spill under 327 IAC 2-6.1-4(15), the applicability requirements of 327 IAC 2-6.1-1, and the Reportable Spills requirements of 327 IAC 2-6.1-5 (other than those meeting an exclusion under 327 IAC 2-6.1-3 or the criteria outlined below) are subject to the Reporting Responsibilities of 327 IAC 2-6.1-7.

It should be noted that the reporting requirements of 327 IAC 2-6.1 do not apply to those discharges or exceedances that are under the jurisdiction of an applicable permit when the substance in question is covered by the permit and death or acute injury or illness to animals

or humans does not occur. In order for a discharge or exceedance to be under the jurisdiction of this NPDES permit, the substance in question (a) must have been discharged in the normal course of operation from an outfall listed in this permit, and (b) must have been discharged from an outfall for which the permittee has authorization to discharge that substance.

3.6 Permit Processing/Public Comment

Pursuant to IC 13-15-5-1, IDEM will publish the draft permit document online at <https://www.in.gov/idem/public-notices/>. Additional information on public participation can be found in the "Citizens' Guide to IDEM", available at <https://www.in.gov/idem/resources/citizens-guide-to-idem/>. A 30-day comment period is available to solicit input from interested parties, including the public.